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DEPARTMENT OF AGRICULTURE

OTTAWA - - - - - CANADA

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PROSPECTS  
FOR  
EXPORT  
OF  
TENDER FRUITS

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PUBLISHED BY DIRECTION OF THE HON. SYDNEY A. FISHER, MINISTER OF AGRICULTURE.

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I received

OTTAWA, 21st February, 1899.

To the Honourable the Minister of Agriculture.

SIR,—I beg to transmit herewith the Report of an address, which I delivered at the Annual Convention of the Fruit-Growers' Association of Ontario, on the subject of "Prospects for Export of Tender Fruits." It contains information which would answer many inquiries from fruit-growers, and be otherwise useful. I recommend that it be printed for distribution.

I have the honour to be,

Your obedient servant,

JAS. W. ROBERTSON,

*Commissioner.*

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## PROSPECTS FOR EXPORT OF TENDER FRUITS.

JAS. W. ROBERTSON, Commissioner of Agriculture and Dairying, said:

MR. PRESIDENT AND GENTLEMEN,—Before I say much about the prospects for an export demand for tender fruits I would like to make a few observations on the present status of the business of growing tender fruits in Canada. In considering why many people went into fruit-growing, one is soon led to the conclusion, that the general fall in the prices of cereals a while ago made many give up grain farming, in which they had had experience, and for which they had natural aptitude, and go into fruit-growing, without either the special knowledge or personal fitness for making a success of that business. Great areas of Canada are devoted to fruit-growing for that reason. When the ordinary operations of farming did not pay well, there was much discussion as to whether fruit-growing would not pay better. There was a great deal of information of the most indefinite kind diffused over the Province in regard to the benefits and advantages and profits of fruit-growing, and the consequent agitation led a great many men into that business. That was a good thing for agriculture and a good thing for those men, because for a while the fruit-growing business paid very well—much better than the land which was devoted to it had paid the occupiers through ordinary farm work.

### SOME REASONS FOR GLUTTED MARKETS.

That leads one to examine into the kinds of fruit that these people have been growing and why they grow the kinds they do grow. Most of the men have planted the kinds that can be grown easiest, with least risk, and that yield largely, without regard to whether there would be a permanent or large enough demand for that class of fruit. In addition to growing the kinds that I have alluded to, they have grown many kinds, and still grow them just because they have some interesting characteristics, and because the "cuts" of them look well in some nice book or catalogue. If one goes over a fruit farm and examines the kinds that are growing and why they are being grown, he will find that while my statements are rather unpalatable, they are quite true in regard to most farms where fruit-growing is carried on. That has led to this state of things in Canada, that the Canadian fruit-growers are growing more tender fruits than their home markets take care of. I do not say that they are growing more tender fruits than the people of Canada can and would readily consume if they got the kinds they want in the condition they like them. We import and pay out more money for tender fruits from California than would fill the pockets of a great many Ontario fruit-growers with all the profits they could expect from their business. The markets are glutted, not because the Canadian appetite is satisfied with Canadian fruits, but because Canadian fruits have not been of the sort or put up in the way that the Canadian consumer wants; and if not suitable for the Canadian, how much less for the ten times more fastidious Englishman? I want to have you think of that before I speak of the prospects for an export trade in tender fruits.

### THE PERSONAL *versus* THE GENERAL MARKET.

If one grows a great many varieties of any sort of fruit, his only chance to make any money is by having what I will call a particular personal market. The grower can go direct to the home of the eater and meet his needs. But if a man has to put his products on the open general market of this country or Britain, then he must not have a whole promiscuous assortment of fruit, but he must have a few suitable known varieties that they like. Otherwise he cannot make it pay. In promiscuous growing he does not grow any variety on a large enough scale to have his expenses low enough, and he does not have enough quantity of any one kind, to attract attention in an open market. I got confirmation of my judgment on this subject from the bulletin just published by Prof. Bailey, of Cornell University, that came to my hands after I had my subject thought out for this meeting. He makes this very clear in his bulletin, that the kind of fruit-growing which a man may follow with profit, for the personal market where he supplies the fruit to the homes in his locality, is quite different from the kind of fruit-growing a man may follow who puts his fruit on the open general market.

That being so, if we have in Canada now considerably more tender fruit than our own markets do take care of, can we find an outlet abroad at profitable prices for these varieties of fruits? That is the problem, and I will tell you a little of our experience. A man who follows fruit-growing for his home market will find customers who pay special prices for special quality, but the man who grows fruit for a general market can get only the current prices for ordinary good quality. The two markets are quite different in regard to the returns the grower may get. More than that, the man who grows fruit for the home market may carry on the work on a small fruit farm, put a good deal of expenditure into the carrying on of his business, and get paid for that by the specially high prices that people will pay for just the particular things they want; whereas if a man throws his stuff on the general open market he has to take the price which the man who grows fruit on a large scale with the least possible expense is willing to take. If we are to have an export trade for the finer fruits we will have to confine ourselves to a few staples in the fruit foods and get these produced of the best quality and at the lowest cost to ourselves.

### THE DEMAND IN GREAT BRITAIN.

That brings me to the inquiry, Is there any demand in Great Britain? That I take to be the market for which we are catering, when we speak of an export demand. Of pears, Britain usually imports about a million dollars' worth a year, sometimes more, sometimes less; of plums, about a million and a quarter dollars' worth a year; and of grapes about two and a quarter million dollars' worth a year from various countries. I have not mentioned apples because they do not come under the heading of tender fruits. The British market does consume an enormous quantity of tender fruits. The market is only opened for them. It is not by any means developed or supplied. In the past the price of pears has been so high that the demand has not been one-tenth of what it may be and will be if Canadians put their pears on the British market as abundantly as they put their apples on the British market. There is a tremendous demand and market there for high-grade pears, because pears enter into the food of the people, through cooking and in many ways. That is an important consideration when you try to estimate the capacity of the market. On the contrary, grapes are always and only a dessert fruit—not a food fruit; and for them the demand is consequently limited, and also more fastidious, because in dessert fruit people want something

particularly pleasing to the eye and palate. They cannot mask the flavour by cooking or in any other way.

#### SOME ESSENTIALS TO SUCCESS.

Then can an export trade in tender fruits be made a success of from Canada? That depends on the men who do it. I suppose twenty times a month men write me such problems as: "Will it pay me to do so-and-so"? Any one who has done work of investigation can say whether a certain principle is applicable or not, or whether a certain statement is true in regard to it coinciding with principles, but no man can say of a business proposal: "That will be successful," or "That will not be successful." Success depends on the personality of the man, and not on the nature of the business. I do not know whether exporting tender fruits can be made a success except as I learn the kind of men who take it up. There are principles and there are methods, and as far as a man understands those and applies them he can make it a success; but the success depends on the person and not on the principle or the method. I want to make that emphatic; it depends on the person and not on the opportunity, because the opportunity may have existed for twenty years; but so far the person has not risen to take success out of the opportunity. It may have been for want of information, it may have been for want of transportation conveniences, it may have been for want of cold storage in the ships; still that is the state of things to-day. Can they be altered from this time on?

#### QUALITIES WHICH DETERMINE VALUE.

First of all the person who undertakes the shipping of tender fruits to Britain must know the conditions that the British consumer and importer impose on him in regard to fruit. I have learned by two years' experience, that the British consumer and importer do not care a snap of their fingers for the fancy names of the specially esteemed kinds of fruit. They do not care a brown baw-bee, whether it has been cracked up by every specialist in the country. Soundness is the first consideration, then keeping qualities, then nice appearance in regard to colour, size and shape; and lastly the importer looks for as nice flavour as you can give him. The latter is not a matter of the first importance at first in the commerce of this business. Soundness, keeping qualities, appearance and then flavour, is the order. Too often the fruit-grower reverses that order, and says: "Oh, but such a kind of fruit is the most delicious and high-flavoured." It may be, and may pay to grow for the personal, particular market of the man who is going to pay a high price for special intrinsic quality; but the British market will pay just the common price in the order of those qualities. I want to repeat that over and over again; it is the secret of the whole situation: soundness and keeping qualities after the fruits are there, then nice appearance, and then a flavour as good as you can give. When trial shipments were made by the Department of Agriculture at Ottawa in 1898, we found those things that we had learned in 1897 were still further emphasized.

#### THE TRIAL SHIPMENTS.

In 1897 the Department took charge of 7,141 packages of tender fruits and sent them to Great Britain. In 1898 the Department took charge of 3,815 packages of tender fruits. We sent in 1897 about three and a half times more than in



1898. The less quantity was not because the Department was less willing to take the fruits and test them in the British market, but because for various reasons, mainly climatic, the shippers in the Grimsby district were not able this year to provide as much fruit as they expected or as the Department wanted to carry on its trial shipments. The fruits shipped were practically the promiscuous gatherings from various farms. That was unfortunate. The arrangement with the shippers was that the Department guaranteed certain prices at the shipping point, and if there was a revenue above that, that also went to the shippers. The kind of package that was used was a comparatively small package, measuring inside 22 inches by 11¼ by from 4 to 6 inches deep according to the size of the fruit. The packages were light; they were open for ventilation and for cooling the fruit; they had an attractive appearance, and also the good quality of being reasonably cheap, costing about six cents a piece. They held all the way from 24 to 30 pounds of fruit according to the size of the individual fruits. Each separate fruit was wrapped in tissue paper, and the packages were filled from the side so as to cause the least surface to be faced.

#### THE CONDITION AS TO RIPENESS.

The condition of ripeness desired when the fruit was picked, was that the pears should be of full size and quite green and firm. The California pears that go to England are sold particularly well, because the receivers there say they can keep them for two weeks after they get them. Observe—soundness, keeping quality. Anybody in Canada knows that a Bartlett is a joy to eat compared with a tough old tasteless pear from California—(Laughter)—still the pears from California would fetch nine shillings a case, whereas our best would fetch only six shillings, because the California pears would keep, and the man who bought them did not fear losing them next morning. The same was true in regard to the condition in which it was desired to have peaches picked; but it is exceedingly difficult in practice to tell when a peach is at the right stage of ripeness. I do not know any means of determining that, and I have not found any fruit-grower who can. I went through the orchards in Grimsby and elsewhere, and I found they told by the appearance of the peaches and then by "the feel" of them. They were quite often disappointed that way. A peach will ripen a great deal in half a day if the weather is hot; and it is practically useless to pick peaches at the same condition of ripeness as can be observed in the picking of pears.

#### THE COOLING OF THE FRUIT.

After the fruit was packed in the cases it was cooled down in the cold storage room at Grimsby to a temperature of between 36° and 40° Fahr. The cold storage could be held easily at these temperatures, and as the packages were small the fruit was cooled to the core to about 38° Fahr. at the time it was put in the railway car. The railway company furnished refrigerator cars. They went forward to Montreal without loss of time, and the fruit was delivered on the steamships in very good condition, with this exception to that remark,—that quantities of the tomatoes and some of the peaches were considerably too ripe before they were put into the cold storage at Grimsby. A low temperature does not seem to have the same power to arrest the ripening of tomatoes as it does to retard the ripening of pears. I had pears put into cold storage at Ottawa, and two months after they were put in they were perfectly sound, firm and hard. Tomatoes put in under the same condition became too ripe in twenty days' time at a temperature of 36° and 38° Fahr.



## PEARS.

The quantity of pears sent over was 2,208 cases. The cases were estimated to hold about one basket and a quarter, and they held from 26 to 28 pounds. I found one weighing 30 pounds of fruit, which was quite exceptional. Taking the prices at which the several lots were sold and averaging them these pears realized on the average 73.6 cents per case at Grimsby after the freight charges and all expenses were taken off. The shippers would realize 67 cents for that quantity of pears after allowing for the cost of the package. Now, I think, that is a very good price. I do not know whether your fruit-growers would be satisfied or not with that price for pears—(Voices, "Yes, yes")—but that was a fair price, and includes two shipments when the British market was said to be dull and glutted for pears. Now, all pears are not alike in the British market; the buyers won't pay the same price for all pears; and the net returns at Grimsby showed a much greater difference than the selling prices in Great Britain, because you have the very same freight charges, and the very same insurance and other charges to take off the low-priced pears in England as off the high-priced pears. The first shipment of pears that went over realized all the way from one dollar a case at Grimsby to forty-six (46) cents a case at Grimsby; that is, one portion of the same shipment fetched a dollar and the other portion forty-six (46) cents. I took the average of all the highest prices at which the pears in each shipment were sold, and then the average of all the lowest prices. In the second shipment they netted from sixty-three (63) to fifty-five (55) cents per case; and in the third shipment from ninety-six (96) to seventy-six (76) cents per case at Grimsby. The smaller sized pears fetched the lower prices I have mentioned. This year these pears were not creditable to Canada. I am not imputing any blame to the shippers at Grimsby beyond saying that the pears this year were small, and not creditable to Canada as showing what we can do usually. The weather was unfavourable during part of the season, even to the extent that some shippers were not able to send pears at all after the first shipment. If we could send forward the best quality of Bartlett pears we would have an enormous market I am sure, because the people like them so well that there is almost an unlimited demand under ordinary conditions at the prices I have mentioned. The very best prices that were gotten for any considerable quantity were six shillings and three pence (6s. 3d.) a case in England for these small cases. That would net at Grimsby one dollar and twelve cents (\$1.12) a case containing from 26 to 30 pounds. The difference in price between the varieties was hardly noticeable. In one case the Duchess fetched from four shillings and six pence (4s. 6d.) to four shillings (4s.), and in another case the Keiffers fetched from four shillings (4s.) to three shillings and six pence (3s. 6d.)

Mr. PATTISON.—The English market likes a large pear?

Prof. ROBERTSON.—Not a monster pear, but a large pear, or rather a large medium size.

Mr. BRODIE.—A pound each.

Prof. ROBERTSON.—No; about 70 pears to the case weighing 28 pounds were a fine size. They would weigh about three to the pound. Those would be pears of first-rate size.

## PEACHES.

I want to deal next with the matter of peaches. We sent altogether 324 cases of peaches. For one small shipment we realized one dollar and fifty cents (\$1.50) a case net at Grimsby; and for a great many other shipments we realized

34½ cents less than nothing at Grimsby. That was a loss of the total expense of carrying them to England, because they sold for nothing there; in fact, were condemned by the health inspectors. They were carried in the same refrigerator car, in the same part of the ship, and at the same temperature as our pears which fetched those prices I have mentioned. Those were mainly the Bartlett and other tender pears. It was not that the cold storage was not efficient; it was that the Crawford peaches sent from Canada had not the qualities in them to let them be in good keeping condition in the English climate, 20 days after they left Grimsby, by any system of cold storage we have yet devised. A few peaches each time were excellent, and a few peaches each time were rotten, and a number of peaches each time were pithy, dry and tasteless. There comes the difficulty of making a commercial success of shipping peaches. If they are picked just the least little bit too green they have almost no flavour and are not mellow when they come out of the cold storage. If they are just right they stay right; but if they are a little too ripe they go to soft rottenness on the other side, the day after they come out of cold storage. In some cases where the peaches were sold for good prices the purchasers brought them back next day and demanded their money back, saying they would get the health officer to condemn the peaches unless they were settled with at once. There is the difficulty; unless you have some means of determining just when the peaches are sufficiently ripe and not too ripe, you would have so many losses that they would take away all the profit from those that were in good condition.

Mr. BURRELL.—Did you see anything of the African peaches—the Cape peach, because I was told by friends in England that they had arrived in very good condition and realized splendid prices?

Prof. ROBERTSON.—The Californian peaches also arrived in good condition and realized good prices. I did not see the African peaches myself. They come in after our spring is about begun. The Californian peaches arrived in some cases in excellent condition, because they have toughness of flesh, and the shippers seem to have a better means of getting a large quantity in the right condition of ripeness.

The SECRETARY.—I do not suppose they ship our Crawford at all from California?

Prof. ROBERTSON.—Perhaps they send tougher varieties.

#### TOMATOES.

Of tomatoes we sent 428 cases. Most of them, I think, were a little too ripe at Grimsby. One or two of the latter shipments I saw in Montreal were also too ripe in appearance. The difficulty with tomatoes is, that they keep on ripening slowly at low temperatures. When the tomatoes were taken from the cold storage in England, they often looked fairly well, but they simply collapsed in two days in most cases. Tomatoes that go into England from outside markets do not go in cold storage, they go on the decks of the ships, where the ventilation is thorough. They are allowed to ripen gradually, and they do ripen very well during the period of ten days; but longer than that makes it exceedingly difficult to have them delivered safely. If they were picked green, then cooled at once and gradually warmed to 50° or 60° Fahr. before they were exposed to the air in England, they might fetch a fair price; but the prices they would fetch would hardly tempt anyone to lay himself out to grow tomatoes in Canada for the English market. A few cases realized thirty-seven (37) cents at Grimsby, a few thirty-six (36) cents, and nearly all the rest were failures, to the extent of realizing nothing, and causing loss to the extent of the freight paid on them. They went in

the same cold storage chambers as the pears that were landed in first-rate condition, and at the temperature that the Californian shippers keep their fruit at, viz.: from 38° to 40° Fahr. on the way across.

#### QUINCES.

Fourteen cases of quinces realized fifty-nine (59) cents each, but I do not know that we have exact information enough in regard to quinces to say whether they may be carried safely as a rule or not. Some of the 149 cases shipped were landed in good condition and some were not. That seemed to be owing to the condition in which the quinces were when they were put in the cases at Grimsby.

#### APPLES.

Of apples in those small packages, 254 cases were sent. They realized forty (40) cents at Grimsby, but the reports all said: "Do not send any more apples in such small cases; larger sized cases will pay you very much better." Apples of the most tender sorts, that cannot be sent at all without cold storage, have been sent to England in the very best of condition through cold storage, and they realized very fair prices. Mr. Brodie, of Montreal, was telling me this morning of some apples he shipped from Montreal in cold storage that netted him fair prices this year. Apples, like the Duchess, that could not at all be sent to England hitherto, can be sent in excellent condition in cold storage if they are properly packed; but a discussion of that will come under the head of Transatlantic Transportation.

Mr. BRODIE.—Were those sent to London or to Liverpool?

Prof. ROBERTSON.—These were all consigned to Bristol.

Mr. BRODIE.—This shipment of mine was sent direct to London. It was 20 days from Montreal to London. That was a long voyage to remain in cold storage.

Prof. ROBERTSON.—What did they realize at Montreal?

Mr. BRODIE.—About \$2.25 a barrel; but the dock charges were something tremendous, also cartage—15 shillings on 30 barrels of apples from the London dock to Covent Garden Market, about 12½ cents a barrel. For 2½ cents we can get apples carted from one end of the city to the other in Montreal.

Prof. ROBERTSON.—I think any one who has large experience in consigning small shipments to England will agree with Mr. Boulter, that the English commission merchant has wonderful facility and thoroughness in devising new items of expenses that he can add to account sales, and in making a long, long list of charges.

#### GRAPES.

I have a few observations to offer on the trial shipments of grapes. There were 441 cases forwarded. Twenty packages that were sent to Glasgow realized seventy (70) cents at Grimsby for about 18 pounds to the case; twenty-five packages realized forty-one (41) cents per case; sixty-two packages realized nineteen (19) cents per case; but the other grapes did not fetch anything at all worth mentioning.

Mr. PATTISON.—With the grapes that were successful, was it a matter of varieties or of condition that they arrived in?

Prof. ROBERTSON.—It was a question of the market they happened to strike. The grapes that were sent to Bristol were landed in good condition; there

was no fault to find; but simply the people did not like the flavour and would not pay a price. Grapes from other countries were so low in price that they would not take any risks with the new thing.

# EXTRACTS FROM LETTERS.

## Pears.

In the matter of pears the first extract I have to mention is from a letter, Oct. 18, by the agent of the Department in Great Britain, who, writing about the California pears, says:

"Pears—(and these went by way of Montreal from California by our cool route)—sold from 7s. to 9s. 6d. per case of from 18 to 20 pounds of fruit; and plums sold from 6s. 6d. to 12s. per case of from 18 to 20 pounds of fruit. The fruit was all in fine condition having been picked green; in fact, some pears will not be ripe for some weeks, but they sell well for keeping stock."

Seven shillings to nine shillings and sixpence because they had keeping qualities. The keeping qualities are what they pay for in England in the meantime. That fruit was landed from the ship's cold storage at from 38 to 40 degrees.

The next short extract I have in regard to pears is in a letter also from Mr. Grindley, of Oct. 22, in regard to the shipment of fruit in one of the steamships:

"I am glad to say it is turning out in regard to condition much better than the first three consignments. Pears very good. Peaches in very fair condition, some cases still too ripe. Tomatoes sound and still green."

Those were the tomatoes that, two days after they were sold, collapsed and would not keep after they came out of cold storage.

Then there is a letter of Oct. 4 from the firm of Elder, Dempster & Co., the steamship owners, and also the firm who sold the fruit. They have developed an enormous trade for the distribution of fruit in England. They say:

"Pears have made what we consider a good return, and the shipments received since have been in better condition than the first and we show considerably better results by these. Mr. C. W. VanDuzer's pears very fine, and should advise shipping large quantities to this market."

I happened to see two of these lots of pears that were selected, about the size and shape and quality to put on the open market.

The next quotation I want to make is from Elder, Dempster & Co., speaking of pears again:

"Packing of pears satisfactory, but we should like them a little greener than they have been. Tomatoes absolutely useless, and we should prefer that this packer send no more to this market."

Mr. McNEILL.—May I inquire whether that Canadian packer had any experience locally in shipping tomatoes?

Prof. ROBERTSON.—I suppose that this man had, because all the shippers seem to grow tomatoes and ship them to the local markets in Canada. We find that tomatoes will do very well carried in a ventilated space but do not seem to keep well after they are taken out of cold storage. The tomatoes that we put to the test in Ottawa seem to have gone in the same way.

This is from Thomas Russell, a fruit merchant in Glasgow, to whom a shipment was sent:

"The pears sold well, especially as at the time of their arrival our market was in a manner glutted with French pears which were being sold very cheap."

I have just this further to say before I leave the pear subject. You will see from the reports and from that last observation, that the pears from Canada

this year did not strike any special catch market. On three different occasions the report was: "The market is rather glutted and dull from large arrivals from the continent."

Mr. PATTISON.—Can you tell us anything as to the varieties of pears?

Prof. ROBERTSON.—They do not give us any statements of preference for any particular variety. The reports are for soundness, keeping quality and appearance, and then for variety for flavour after that.

A DELEGATE.—Do you know the variety Mr. VanDuzer sent?

Mr. ROBERTSON.—Yes; he sent some Bartletts and some Keiffers.

A DELEGATE.—Do you know if there were any Keiffers sent?

Prof. ROBERTSON.—Yes, in the last shipment, and they were sold at from four shillings to three shillings and sixpence per case; that would bring from 59 to 47 cents net at Grimsby, and that was at the time when the price was lowest in England.

Mr. GREGORY.—That would be of 28 pounds per case?

Prof. ROBERTSON.—About that.

Mr. SMITH.—Are we to understand that there is no preference for any variety of pear?

Prof. ROBERTSON.—The Keiffers were sold for within twelve cents a case as much as the Duchess. So far as our testing of the English market goes, the price paid is according to the soundness, the keeping quality, and the appearance, and then the flavour is considered. California pears were sold at much higher prices than even our Bartletts, because they had keeping qualities. Of course the flavour and other eating qualities must be fair.

The SECRETARY.—Last year one shipper who received a case of pears in Great Britain said that he did not care to buy a second box.

Mr. BRODIE.—Do they use that Keiffer pear for table decoration or for use? (Laughter.)

Prof. ROBERTSON.—I am unable to say. Some kinds may be used for table decoration, but that is not the kind that should be sent. While soundness and keeping qualities and appearance are things wanted now, in the course of a few years they will begin to discriminate; and if we have given them good pears with fair keeping qualities all along we will have the first place in the market. In the meantime their money is paid only for the fruit having soundness and keeping qualities; so let us get our fruit there in that condition and of the best flavour and flesh we can. We will then have the preference in the market in the long run when the keener competition comes.

#### EXTRACTS FROM LETTERS—Continued.

##### *Peaches.*

The following are a few extracts from letters in regard to peaches:—

"Peaches turned out six over ripe in eleven cases, and 40 cases are now in Elder, Dempster & Co.'s back-yard completely rotten."

These went in cold storage at from 36 to 38 degrees. The second says:

"Peaches already shipped have the appearance of having been chilled, besides on being exposed to warm temperature they gather moisture which hastens decay—some of the paper wrapping being quite wet."

That is, from being very cold, moisture from the English atmosphere was condensed on them, and that hastened their decay.

The next quotation on that matter is in a letter from Elder, Dempster & Co., 4th of October. They say:

"Peaches.—We would advise you to stop shipments of these as they will cost senders more money than they will realize. Your Mr. Grindley has seen these goods, and we understand he is advising you to stop shipment of them."

Then on 24th October, the same firm writes:

"Peaches realized much better prices than we anticipated, but since selling these by auction we have received numerous complaints with inquiries for money to be returned. They arrived here in a condition which we are unable to put into words, namely, dry, they being absolutely useless for dessert fruit. We would advise this packer not to ship any more of these in cold storage, and if you can pack in smaller packages containing about two dozen peaches wrapped in wool, and picked green so that they can ripen on the voyage we are sure we should make a good market here."

That would seem to indicate that they would like trial shipments not in cold storage, but in a ventilated space. The peaches I put in cold storage kept all right, but those that were put in green became dry and almost quite tasteless. The difficulty is to get the peaches just at the right condition of ripeness for shipment.

Then there is a remark about plums:

"Plums were in a very bad condition, they being picked when a little too ripe. Apples in good condition, the packages are too small to pay for voyage."

### *Grapes.*

The quotations I have next are about grapes.

From Mr. Grindley, Oct. 7th:

"I have cabled and written to you several times regarding the unsatisfactory condition in which the peaches and tomatoes are reaching here, and should advise the stoppage altogether of consignments of both peaches and tomatoes, and I might also add grapes, for although they arrive in fair condition there is no demand for them owing to the flavour."

Then on October 18th:

"I noticed in Bristol one large fruit dealer was selling our grapes (card in window) as 'Choice California.' They told me nobody wanted 'Canadian grapes,' but they sold some as Californians."

I am giving you the facts without being able to account for all the mysteries of English commerce and of the English palate.

Mr. GREGORY.—What were the varieties of grapes shipped?

Prof. ROBERTSON.—Mostly Rogers Red, Rogers Black, Lindley and Niagara, and I think only a few Concord. I think the bulk of them were Rogers Red and Rogers Black. I think the grapes this year were representative of the best grapes in the Niagara Peninsula at the time the shipments were made.

Mr. GREGORY.—Have you a statement of what the grapes sold for per pound?

Prof. ROBERTSON.—Most of them fetched no price at all; they were nearly all given away. The four shipments from Mr. Linus Woolverton illustrate the rest. In the first shipment of grapes there were sent ten cases which netted twenty-three (23.9) cents a case at Grimsby; that would be about sixty (60) cents over there. The next netted 19¼ cents at Grimsby; the next lot were a complete loss; and also the fourth a complete loss, leaving the freight and other expenses to be paid on the last two shipments in addition to the loss of the fruit and the packages.

Mr. GREGORY.—Was that in the same market?

Prof. ROBERTSON.—The same market. After the two first shipments they would not buy them. There was not any complaint as to the condition of the grapes. They were not mildewed or soft or out of condition by falling off the stems.

The PRESIDENT.—Simply they did not like them?

Prof. ROBERTSON.—They did not like them, and other grapes were very cheap.

The next extract in regard to grapes is from Glasgow, in which the salesman says:

"Grapes.—The demand for these was very slow on account of the peculiar flavour which they have, and which is not relished as yet by our countrymen."

In these cases the grapes were Red Rogers, Black Rogers, Wilder, Agawam, Lindley and Niagara. They were sold all the way from five shillings and eight pence per case, the highest—that is \$1.36 per case over there—down to eight pence per case (that is 16 cents over there). There were a few Wilder grapes sold, and they were sold for four shillings and eight pence—that is \$1.12 over there). That would realize 72 cents at Grimsby. The transportation charges amounted to about 34 cents per case from Grimsby to Glasgow; the commission for selling was in addition to that. Nine cases of Agawams were sold for three shillings and eight pence; Lindleys for two shillings, and one shilling and three pence. Twenty-eight other cases of Lindleys were sold for four shillings and four pence. Niagara grapes were sold for from two shillings down to eight pence per case; thirteen boxes of Red Rogers were sold for four shillings and eight pence; and seven boxes of Black Rogers were sold for five shillings and eight pence. These were all sold in Glasgow. The grapes which were sent to Bristol in the last two shipments were simply given away.

#### *And Tomatoes.*

Another extract from Elder, Dempster & Co.'s letter:

"As we have previously told you the grapes and tomatoes are useless to us, and we are bound to claim from you any money which may be due for freight on them."

The next letter is from Mr. Grindley, the agent of the Department, dated November 10th in which he says:

"I examined the tomatoes from Canary Islands packed in peat dust and brought here as deck-loads, and they were in perfect condition."

That is where England gets most of its tomatoes from abroad. Then from the fruit salesmen, October 4th:

"We are not satisfied by your putting these goods in cold storage, as the low temperature is detrimental to the shipment, especially for peaches and tomatoes."

"Tomatoes.—These have deteriorated considerably, as have peaches, owing to their being in cold storage, and we have had continual complaints from our customers of them. When they have been placed on show they melt into water, and 24 hours after being bought they are in a useless condition, and we have been compelled in many cases to return the money that was made at sale."

Then from Glasgow there comes the report:

"Tomatoes.—There was no great demand for these on account of the cold weather and the plentiful supply of local grown fruit."



Now, Mr. Chairman, I have come to the end of the extracts and also to the end of my remarks, except these few things I have to say in conclusion. I think the prospect for a profitable trade in the exportation of Canadian pears is very good. We have the conditions for producing abundantly this class of fruit which the British public are both able and willing to pay good prices for.

A DELEGATE.—How would quinces be?

Prof. ROBERTSON.—So far we find them sometimes being sold well and sometimes being given away.

Mr. PATTISON.—Is there any prospect of putting plums on that market in good shape?

Prof. ROBERTSON.—I think little prospect of making them pay well, because of the suitability of their own climate for growing them in most years. I think we might have a "Snap Market" occasionally.

A DELEGATE.—What is the method of cold storage on the ships?

Prof. ROBERTSON.—Mechanical refrigeration by the use of ammonia to a temperature of 36° to 40° Fahr.

Prof. MILLS.—Do California apples, tomatoes, plums and peaches reach there in good shape?

Prof. ROBERTSON.—Their main trade has been in pears, and they were at it four or five years before they made a success of it. This year they have added peaches. They had failures for two years; the shippers were said to have lost \$200,000 in one year. After they had learned to pack and carry pears successfully, they have gone into the peach business and apparently are making a success of that.

Dr. MILLS.—Have they done anything with tomatoes and grapes?

Prof. ROBERTSON.—I think not with tomatoes. They have with grapes; their grapes have thick skins and tough flesh.

Prof. ROBERTSON.—As far as I could learn on the spot from talking with merchants, the English grown plum is usually sufficient for their own needs at fair prices, and we have not any chance of getting a demand for our plums at a profit.

With regard to peaches it does not seem to me that we can expect a profitable trade in exporting peaches from Canada to Britain by means of cold storage; nor can we expect a profitable trade at all in sending over Crawford peaches from Canada to England. The fruit is so tender that unless picked at a particular hour of the day when its development is just right there would be a risk of loss so great that no commercial man would take up the venture on a large scale.

With regard to tomatoes the position is still doubtful; but the increased production in the south of England, and the Canary Islands is putting the price down so low that, counting our extra expense and our extra risk, I am not hopeful we will have a trade in tomatoes. Even if they could be carried safely, it is doubtful if we could make it pay as against these other competitors.

I do not think we need look for a trade of large volume in grapes.

A DELEGATE.—Could you give us the month in which the peaches were shipped?

Prof. ROBERTSON.—I think the first shipment of fruit went out on the 7th September.

A DELEGATE.—Do you know if any Smart peaches were shipped?

The SECRETARY.—There were a few.

Prof. ROBERTSON.—Through Mr. Woolverton's own enterprise 30 cases of grapes were sent to one firm of jam makers, and they reported that they were entirely useless for their purposes.

## GENERAL CONCLUSIONS.

My conclusions so far as they can be stated with any satisfaction to myself with some sense of the responsibility under which I say them, is that Canadians may have a continuously growing trade in the exportation of pears; that a very large trade in the tender sorts of apples can be developed by shipping in cold storage; that there is a possibility of getting a trade that may leave a living profit from shipping tomatoes; that there is no likelihood of making a success of sending over Crawford peaches; and that as the demand for Canadian grapes does not exist, it is a question to be considered whether it would pay us to send about one car-load a week of our best sorts to further try to create a demand. Other tender fruits such as raspberries and currants and things of that kind could only, I think, be sent across profitably in the form of pulp; and that may or may not be profitable just as there is a scarcity or a large crop of these small fruits in Great Britain for the year. If the crop there is large the price goes so low that there would be no profit in sending them over from here.

The SECRETARY.—Why could not Crawford peaches be sent in pulp?

Prof. ROBERTSON.—The price of all fruit pulp, except raspberry pulp, is from £18 to £22 per ton. I doubt if they would take anything but raspberry pulp at first; and other things would have to create a demand for themselves. At £22 per ton, after taking off the costs of preparing, the cost of packages, of transportation and commissions I do not think there would be enough left for the fruit to induce our people to provide it.

Mr. GREGORY.—What is the charge per ton for transportation and for freight for grapes and pears?

Prof. ROBERTSON.—The freights from Grimsby to Montreal are 33 cents per hundred pounds. The freight on the ship is by measurement, usually from twenty to twenty-five shillings per forty cubic feet in cold storage. The total expenses for transportation this year come to 34 cents per case of about 28 pounds of fruit from Grimsby, Ont., to Bristol.

Mr. GREGORY.—Per case of 28 pounds?

Prof. ROBERTSON.—Yes; that was the whole expense,—transportation and dock dues and everything on the other side, excepting the item of commission, which was only three per cent on these shipments.

The PRESIDENT.—Now, I am sure that the time the Professor has taken up has been well spent indeed, and before we take up the next subject, which we might take up jointly with this, the privilege will be given of asking the Professor any question you wish to ask.

Mr. CASTON (Craighurst).—There is more profit in the growing of early apples than in any other crop if you can get a market for them. But they come in at a time when it is very hot. Does he find the tender variety of apples on the other side deteriorate very fast? That is what the commission men tell us; they are trying to discourage the shipment of apples in cold storage.

Prof. ROBERTSON.—The reports I have are that when apples are taken out of cold storage in warm weather, moisture forms on them and that causes them to deteriorate. Without cold storage they cannot be sent at all. A Montreal shipper shipped Duchess without cold storage and they were a complete loss.

The Rev. W. WYE SMITH.—Would the Professor tell us whether the Canadian manufacturers have any good prospects for canned fruits in the old country?

Prof. ROBERTSON.—I saw a good many samples of Canadian canned fruits in Britain. I spoke of them as favourably as I could at the Boards of Trade, when I met merchants; and I examined some cans in the hands of merchants there, who said they were pleased with them. I think that is a growing trade.

just how profitable it is I do not know. There is no chance at all of putting up sweet preserves or jams and sending these from Canada to compete with those made in Britain. The cost of the sugar and the cost of the glass and the tin packages are so much less there than here that we are out of the trade.

Mr. BRODIE.—I might mention one matter in connection with shipping apples in cold storage. The moment they are taken off the trees and put in a barrel they should be put in cold storage immediately, because if they are left a couple of days the ripening process goes on and they will be a total loss to the shipper.

### TRANSATLANTIC TRANSPORTATION.

The PRESIDENT.—As the questions seem to come in the line of transportation, I think it would be well to take that subject up now; and as you have had so much to do, Professor Robertson, in the transportation of fruit, I would ask you to open the discussion, and then others who are desirous of speaking on that subject will be gladly heard.

Prof. ROBERTSON.—What I have to say on this subject will be rather suggestive than didactic. The more quickly an apple ripens the more quickly it rots. Ripening of apples goes on only when the fruit is held at a high enough temperature. If the temperature be put down low—say to 36° Fahr.—the ripening process practically stops. Now, unless some external means are taken to reduce the temperature, the ripening process goes on; and the ripening itself produces heat, and, therefore, makes the ripening go on still faster. I did not know one of the main uses of cold storage until I learned this morning from the paper read in the convention that the cause of the ever increasing heat in apples was traceable to the actual presence of the Devil in the fruit. (Laughter.) Then I began to see that the Devil himself, accustomed to a warm place, could not go on working in a very cold room. (Laughter.)

Mr. PATTISON.—Some of the commission men should be put in cold storage also. (Laughter.)

Prof. ROBERTSON.—The reduction of temperature would certainly destroy the works of the Devil in the apple, and that in a general way is said to be the highest use of human talent. Apples in ripening do create heat, and there must be a chance for letting the heat that is generated escape and also a means of stopping the production of heat.

The early ripening apples should be cooled down to below 50° Fahr. just as soon as they can be cooled after they are taken off the trees, and then they should be cooled down as low as 40° Fahr. as soon as may be after that. By that means even the very earliest ripening sorts could be landed in Great Britain in first-rate condition. Now, if they are put in barrels at even 60° Fahr. and headed up close they will get up to 70° Fahr. in the centre of the barrel in a short time. If they are put in the hold of the ship, the whole place gets above 70° Fahr. in a short time, and then the apples arrive as "wets" and "slacks."

In 1897 a lot of over 500 barrels was sent; the half that went into cold storage sold for 18s. a barrel, and the half that went not in cold storage sold for 8s. a barrel at the same time. There is no way of carrying these tender apples across except in cold storage. Other varieties of apples can be carried in cool ventilated holds.

Our large apple trade, to say nothing of the tender and early-ripening and early-decaying sorts, is not in a good way; it is not on a good basis. I think I am quite within the mark in saying that 60 per cent of the apples that go to Great Britain fetch less than two-thirds the price they could fetch if they were properly

graded and properly packed and safely carried. Now, the grading and packing and the carriage would not cost any more when done properly than in the haphazard way that has been allowed in the past. Just a word in regard to grading. It will pay any man who grows apples to sort out all the small, mis-shapen and blemished apples, and not to try to sell them in barrels mixed with good apples, particularly if for the British market. Half a barrel of good apples well selected, well sorted and safely carried will fetch more money than half a barrel of good apples, plus half a barrel of poor apples; and the expense of carrying the poor apples has to be charged against the price of the good apples. To protect ourselves we will have to get some way of rousing the growers to a realization that they must not allow any man to pack their apples unless he does so in the best possible way. If the growers allow the other practice to prevail they are simply cutting off the best market; because the British public won't pay the price for mixed apples that they will pay for graded apples in fine condition.

The English merchant sells on commission, and he says: "Send in barrels," because he can sell more in barrels than in boxes; and the commercial man of to-day does not take any trouble if he can help it. Now, I would send apples across in bushel boxes and let the commission man fume for a while. A while ago they said: "You can't send any eggs here except in large cases." Now, they all say our Canadian egg cases are the best in the market. Retail merchants tell me: "We can sell a small box of apples when we could not sell a barrel." It would pay a locality to have a cold storage into which the apples would go for three days before they are shipped. The steamship owners, without any contribution from the Government, have engaged this autumn to put in what they call ventilated cool storage in the ships; and late fall and winter apples will go better this way than in cold storage. It is provided by a duct to carry fresh cold air to the hold where the apples are. There is a cowl on top to catch the wind. Another duct leads from the top of the hold to allow the warm air to escape, and a fan hastens it out. That makes a nice cool draught through the hold and allows the heat to escape. I think the apples should be colled at the starting point, then carried in cool cars, and in ventilated places on the steamships.

Dr. MILLS.—Would your recommendations apply to all varieties of apples?

Prof. ROBERTSON.—All apples that are moved in hot weather. If every apple is cooled down before it is shipped it simply gives it so much better keeping quality when it gets to England.

A DELEGATE.—What line of steamers is going to put in these ventilators?

Prof. ROBERTSON.—The Allans to Glasgow, Liverpool and London; Elder, Dempster & Co. to Bristol and London; Thomsons to London; the Donaldsons to Glasgow; the Dominion Line to Liverpool, and others. There are several big lines out of Montreal arranging to have them for the carriage of apples. Without them apples and cheese were being carried in such bad condition that the trade was being imperilled. I think if the Fruit-Growers' Association of Ontario and the fruit-growers of Canada do not take hold of this transportation problem and bring about better methods and facilities they may as well go out of the business. The fruit-growing has been done fairly well; but there has been so much loss and damage and dissatisfaction from the spoiling of fruit on the way to the markets, both to our home and foreign markets, that the matter must be taken hold of and corrected.

It would pay every fruit-growing locality to have a special cold storage building and a special agent to look after the transportation.

A. H. PETTIT.—I would like to ask what is the prospect of capacity in cold storage on board our steamships? A great many want to know if it is probable there is space for them to ship?

Prof. ROBERTSON.—I am not able to answer the question just yet, because negotiations are pending for an enlargement of the cold storage space in the ships that now have it, and the putting of it in the new steamships that are coming out. During last season the cold storage chambers were filled from about the end of August. The applications for room in them were greater than the capacity of the cold storage about the first week of September. The steamship companies are now offering to put in larger cold storage compartments on certain conditions, but the negotiations are not yet carried to a conclusion. The probability is that there will be enough cold storage accommodation next year for all the tender fruits that are ready to go, and better ventilated cool storage space for some varieties of apples that are half way between the very tender ones and the fall ones.